National Aeronautics and Space Administration

STRATEGIC SUSTAINABILITY PERFORMANCE PLAN 2012 highlights

Aeronautics

Human Exploration and Operations

Science

NASA continues to draw upon the creativity, experience and initiative of its workforce to achieve NASA's mission, integrate sustainability into the NASA work ethic, and enable the Agency to meet the goals and targets of the Strategic Sustainability Performance Plan.

www.nasa.gov

goals & statistics

EO 13514

Executive Order 13514 *Federal Leadership in Environmental, Energy, and Economic Performance*

GOALS	STATUS
 **Greenhouse Gases** ***GOAL:*** Reduce direct GHG emissions (onsite or offsite) by 18.3% and indirect emissions (commuting, travel, etc.) by 12.6% by FY2020, compared to 2008	
 **Fleet Petroleum Use** ***GOAL:*** Reduce by 2% annually, compared to 2005	
 **Water Use** ***GOAL:*** Reduce potable intensity (gallons/sq ft) by 2% each year, compared to 2005; reduce use for industrial, landscaping, and agricultural by 2% each year, compared to 2010	
 **Waste** ***GOAL:*** Reduce 50% of trash generated; reduce 50% of construction and demolition debris	
 **Green Buildings** ***GOAL:*** Starting by 2020, all new planned buildings must be designed to achieve zero-net energy by 2030. By 2015, 15% of existing buildings must meet Guiding Principles for High-Performance Buildings	
 **Acquisition** ***GOAL:*** 95% of new products and services are Energy Star or Federal Energy Management Program (FEMP)-designated	
 **Electronic Stewardship** ***GOAL:*** Procure energy-efficient equipment; implement best practices for energy-efficient services and data centers.	

Other important actions for Federal Agencies (NASA has accomplished all):

- Designate an Agency Sustainability Officer responsible for achieving EO 13514 provisions
- Participate in Interagency Climate Change Adaptation Task Force
- Provide Agency Climate Adaptation Plan by July 2012
- Provide Fleet Management Plan by July 2012

BY THE NUMBERS...

10 Major Centers
4 Component Facilities
DC Headquarters
2600 Buildings Agency-wide

328 Square Miles of Land

18,000 Civil Servants
40,000 On-site Contractors, Partners, and Tenants

>32 Billion in Constructed Assets
18 Billion Annual Budget

accomplishments

NASA is meeting or exceeding most of its SSPP goals and objectives. *Since our prior annual report, NASA's sustainability efforts focused on these primary areas:*

WE ARE...

- **Reducing Our Energy Usage** by installing energy management control systems to more efficiently match power use to heating, cooling, ventilation, and lighting needs. ***COOL FACT:*** "Energy Dashboard" websites at some Centers track energy consumption patterns and have spurred healthy competition between occupants of different buildings.
- **Powering Our Buildings With More Renewable Energy** by implementing a strategy that calls for a few large renewable energy (primarily solar panel) projects rather than smaller ones at each Center. ***COOL FACT:*** Since 2010, a Florida electric utility company has operated 11 megawatts of solar photovoltaic array capacity on Kennedy Space Center for the shared benefit of the community and NASA.
- **Adding To Our Portfolio Of Green Buildings** and received LEED Platinum status on three innovative buildings this past year. ***COOL FACT:*** NASA had 1.5 million square feet of sustainable facilities in its building inventory at the end of FY 2012.
- **Reducing Potable Water Use** by repairing and replacing old water distribution lines. ***COOL FACT:*** These repairs/replacements alone resulted in a 28% reduction in potable water use!
- **Spreading the Word About The Importance of Integrating Sustainability Into Everything We Do** by communicating with our International partnerships, training on advances in sustainable practices, operating in Communities of Practice that efficiently communicate innovations, and encouraging collaboration (and sometimes competition) between Center Sustainability Officers. ***COOL FACT:*** NASA Master Plan policy (NPR 8810) mandates the inclusion of climate criteria in master planning.

SUSTAINABLE

Johnson Space Center's energy-efficient LEED® Platinum Building 20 is modeled to perform 57 percent better than a typical facility complying with ASHRAE's energy code.

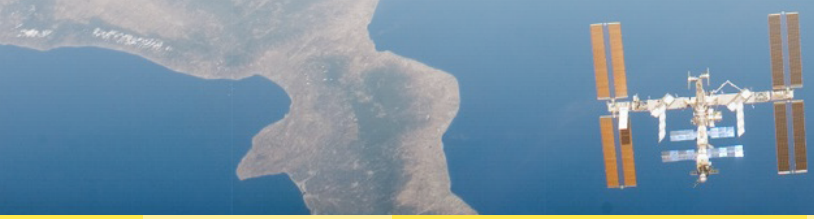
coming next year...

- Energy projects being implemented in FY 2013 under **Energy Savings Performance Contracts and Utility Energy Services Contracts** will enable millions of dollars of efficiency upgrades to facility systems. The resulting recurring cost avoidance provides funds to repay project investments. NASA's projects contribute to the December 2011 Presidential Memorandum requirement for the Federal Government to contract for $2B of energy efficiency investments by the end of 2013. NASA awarded $11.9M in Energy Savings Performance Contracts from December 2011 through August 2012.

- In 2013, NASA will complete construction on **twelve new buildings with over 800,000 sf of space designed to meet LEED Platinum, Gold, or Silver standards.** Of note, these new buildings span a range of uses – office, warehouse, auditorium, laboratory, shipping and receiving, and technology center.

- **NASA continues to fund the Climate Adaptation Science Investigator team**, with representatives from each Center, to conduct climate science research and develop tools oriented to the needs of NASA's worksites but of value beyond NASA. Results of the team's work will be used to modify NASA construction and design specifications, operations, and policies. These modifications will help NASA become adaptable, flexible, and, ultimately, sustainable.

- NASA is building **partnerships** within the U.S. government and with international, academic and industry organizations on **Life Cycle Management** and **Space Asset Assurance and Resiliency**. Our goal is to execute our missions with less risk and more efficiency and effectiveness. We will collaborate on common goals, new technologies and applications, and technical expertise.



Executive Order 13514

Under Executive Order 13514, Federal agencies are required to develop, implement, and annually update a Strategic Sustainability Performance Plan that describes how they will achieve the environmental, economic, and energy goals mandated in the Executive Order. Agencies must prioritize actions based on a positive return on investment for the American taxpayer. The plans are updated each year, reviewed by the White Office Council on Environmental Quality (CEQ) and approved by the Office of Management and Budget (OMB) to ensure that actions are carefully aligned with resources, Administration priorities, and the Federal budget process.

For the full text of NASA's Strategic Sustainability Performance Plans, visit

www.nasa.gov/sustainability

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